

What is claimed is:

1. A joined body comprising a first member made of a metal, a second member made of a ceramic or a cermet, and a joining portion interposed between said first member and said second member for joining said first and second members, said joining portion comprising a main phase contacting said first member and an intermediate glass layer contacting said second member and existing between said second member and said main phase, said main phase comprising a porous bone structure having open pores, said porous bone structure comprising a sintered product of metal powder, and a glass phase impregnated into said open pores of said porous bone structure.
2. The joined body as claimed in claim 1, wherein said intermediate glass layer and said impregnated glass phase comprise a main component of said ceramic or said cermet constituting said second member.
3. The joined body as claimed in claim 1, wherein said metal constituting said porous bone structure comprises a main component of said metal constituting said first member.
4. The joined body as claimed in claim 2, wherein said intermediate glass layer and said impregnated glass phase comprise the same ingredient system.
5. The joined body as claimed in claim 3, wherein said intermediate glass layer and said impregnated glass phase comprise the same ingredient system.

6. The joined body as claimed in claim 1, wherein said porous bone structure has a porosity of open pores in a range of 30% to 80%.

7. The joined body as claimed in claim 3, wherein said porous bone structure has a porosity of open pores in a range of 30% to 80%.

8. A high pressure discharge lamp comprising:  
a ceramic discharge tube having an inner space formed therein and end portions, said inner space being filled with an ionizable light-emitting material and a starter gas and an opening being formed within at least one of said end portions;

an electrode system provided within said inner space;

a sealing member having a through hole formed therein, a part of said sealing member being fixed within said opening of said end portion of said ceramic discharge tube; and

a metal member, wherein said metal member and said sealing member constitute an air-tight joined body comprising said joined body as claimed in claim 1, said metal member comprising said first member and said sealing member comprising said second member.

9. The high pressure discharge lamp as claimed in claim 8, wherein at least a part of said metal member is inserted into said through hole, said sealing member further comprising a joining surface joined with said metal member and a protrusion provided between an edge of said metal member and said inner space of said discharge tube on an inner side facing said through hole, said lamp further

comprising an adhesive glass layer between said edge of said metal member and said protrusion.

10. The high pressure discharge lamp as claimed in claim 8, wherein at least a part of said metal member is inserted into said through hole and an inner wall surface, facing said through hole of said sealing member, is joined to said metal member along the full length of said inner wall surface.

11. The high pressure discharge lamp as claimed in claim 8, wherein at least a part of said metal member is inserted into said through hole and a part of an inner wall surface of said sealing member is joined to said metal member through said joining portion, said lamp further comprising a metallized layer on a region of said inner wall surface where said joining portion is not provided, and said metallized layer comprising an end portion, on a side of said inner space of said discharge tube, being electrically connected with said electrode system.

12. The high pressure discharge lamp as claimed in claim 8, wherein said intermediate glass layer is contacted with an inner wall surface, facing said through hole, of said sealing member, wherein said intermediate glass layer and said main phase air-tightly seal said through hole, and wherein said metal member is joined with said main phase without said metal member passing through said joining portion.

13. A high pressure discharge lamp comprising:  
a ceramic discharge tube with an inner space formed therein and end portions, said inner space being filled with an ionizable light-emitting material

and a starter gas and an opening being formed within at least one of said end portions;

an electrode system provided within said inner space; and

a metal member, wherein said metal member and said ceramic discharge tube constitute an air-tight joined body comprising said joined body as claimed in claim 1, said metal member comprising said first member and said ceramic discharge tube comprising said second member.

14. The high pressure discharge lamp as claimed in claim 13, wherein at least a part of said metal member is inserted into said opening, said ceramic discharge tube further comprising a joining surface joined with said metal member and a protrusion provided between an edge of said metal member and said inner space of said discharge tube on an inner side facing said opening, and said lamp further comprising an adhesive glass layer between said edge of said metal member and said protrusion.

15. The high pressure discharge lamp as claimed in claim 13, wherein at least a part of said metal member is inserted into said opening and an inner wall surface facing said opening of said ceramic discharge tube is joined to said metal member along the full length of said inner wall surface.

16. The high pressure discharge lamp as claimed in claim 13, wherein at least a part of said metal member is inserted into said opening and a part of an inner wall surface of said ceramic discharge tube is joined to said metal member through said joining portion, said lamp further comprising a metallized layer on a region of said inner wall surface where said joining portion is not provided

thereon, and said metallized layer comprising an end portion, on the side of said inner space of said discharge tube, being electrically connected with said electrode system.

17. The high pressure discharge lamp as claimed in claim 13, wherein said intermediate glass layer is contacted with an inner wall surface of said ceramic discharge tube, said inner wall surface facing said opening, wherein said intermediate glass layer and said main phase seal air-tightly said opening, and said metal member is joined with said main phase without said metal member passing through said joining portion.